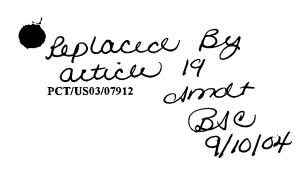
## WO 03/078038



## **CLAIMS**

What is claimed is:

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- A bubble cap comprising a cap with at least one slot and a riser, configured with a skirt height of at least 4 cm such that 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 7.5, and posed such that a liquid fluid and a gaseous fluid flow co-currently upwardly in a space between the riser and the cap.
  - 2. The bubble cap of claim 1, wherein 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 15.
- 3. The bubble cap of claim 1, wherein 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 22.5.
  - 4. The bubble cap of claim 1, wherein 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 30.
- 5. A bubble cap comprising a cap with at least three slots and a riser, configured with a skirt
  15 height of at least 4 cm such that 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 7.5 , and disposed such that a liquid fluid and a gaseous fluid flow co-currently upwardly in a space between the riser and the cap.
  - 6. The bubble cap of claim 5, wherein 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 15.
  - 7. The bubble cap of claim 5, wherein 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 22.5.
    - The bubble cap of Claim 5, wherein 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 30.
  - 9. A bubble cap comprising a cap with at least five slots and a riser, configured with a skirt
    25 height of at least 4 cm such that 1.5 \* Skirt Height (cm) + [Slot Length (cm) Exposed Slot Height (cm)] ≥ 7.5, and disposed such that a liquid fluid and a gaseous fluid flow co-currently upwardly in a space between the riser and the cap.